AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Currently Amended) A protective apparatus for securing to a component ~~(32)~~ movable along a track ~~(B)~~ and for the monitoring of a protected zone ~~(62; 82; 110)~~ to be moved with the component ~~(32)~~, the protective apparatus comprising

a light transmitter ~~(42; 64; 84)~~ for the radiation of a divergent transmitted light beam ~~(50, 50'; 76; 98)~~ into a spatial zone containing the protected zone ~~(62; 82; 110)~~;

a light receiver ~~(44; 64; 84)~~ for the reception of at least some of the light of the transmitted light beam ~~(50, 50'; 76; 98)~~ of the light transmitter ~~(42; 64; 84)~~ radiated into the spatial zone and for the emitting of corresponding reception signals; and

a restriction device ~~(52; 68; 102)~~ which is arranged in the direction of a transmitted light path after a section of the transmitted light path which contains the protected zone ~~(62; 82; 110)~~ and by means of which the transmitted light beam ~~(50, 50'; 76, 8)~~ can be restricted to a less divergent received light beam ~~(58; 80; 108)~~ determining the width of the protected zone ~~(62; 82; 110)~~ in at least one direction.

2. (Currently Amended) A protective apparatus in accordance with claim 1, characterized in that an aperture angle of the transmitted light beam ~~(50, 50'; 76; 98~~ is selected such that a width of the transmitted light beam ~~(50, 50'; 86; 98)~~ is larger by a factor of 10 in a pre-determined direction orthogonal to the transmitted light

path directly in front of the restriction device ~~(52; 68; 102)~~ than a corresponding width of the received light beam ~~(58; 80; 108)~~ directly at the restriction device ~~(52; 68; 102)~~.

3. (Currently Amended) A protective apparatus in accordance with claim 1, characterized in that an aperture angle of the transmitted light beam ~~(50; 50'; 76; 98)~~ is selected such that a width of the transmitted light beam ~~(50, 50'; 76; 98)~~ directly at the restriction device ~~(52; 68; 102)~~ is larger in a pre-determined direction orthogonal to the transmitted light path directly in front of the restriction device ~~(52; 68; 102)~~ than a mean amplitude of movement of the transmitted light beam ~~(50, 50'; 76; 98)~~ to be expected directly at the restriction device ~~(52; 68; 102)~~ and caused by a relative movement of the light transmitter ~~(42; 64; 84)~~ and the restriction device ~~(52; 68; 102)~~.

4. (Currently Amended) A protective apparatus in accordance with claim 1, characterized in that the restriction device includes a diaphragm ~~(52)~~.

5. (Currently Amended) A protective apparatus in accordance with claim 1, characterized in that the restriction device includes a reflecting element ~~(68)~~ at which a part beam ~~(78)~~ of the divergent transmitted light beam ~~(50, 50')~~ to be supplied to the light receiver ~~(44)~~ can be reflected.

6. (Currently Amended) A protective apparatus in accordance with claim 1, characterized in that the restriction device ~~(102)~~ includes a retro-reflective

element ~~(104)~~ at which a part beam ~~(106)~~ of the divergent transmitted light beam ~~(98)~~ to be supplied to the light receiver ~~(84)~~ can be reflected.

7. (Currently Amended) A protective apparatus in accordance with claim 5, characterized in that the light transmitter ~~(64; 84)~~ and the light receiver ~~(64; 84)~~ are arranged on the same side of the protected zone ~~(82; 110)~~.

8. (Currently Amended) A protective apparatus in accordance with claim 6, characterized in that the light transmitter ~~(64; 84)~~ and the light receiver ~~(64; 84)~~ are arranged on the same side of the protected zone ~~(82; 110)~~.

9. (Currently Amended) A protective apparatus in accordance with claim 5, characterized in that the light transmitter ~~(64; 84)~~ and the light receiver ~~(64; 84)~~ preferably have a common beam splitter ~~(70)~~ and at least one common transmission/reception lens ~~(72; 88)~~ arranged after the beam splitter ~~(70)~~ in the transmission direction.

10. (Currently Amended) A protective apparatus in accordance with claim 1, characterized in that the light receiver ~~(44; 64; 84)~~ has at least one reception element ~~(100)~~ whose reception area in a direction of divergence of the received light beam ~~(58; 80; 108)~~, which corresponds to the direction ~~(B)~~ in which the divergent transmitted light beam was restricted by the restriction device ~~(52; 68; 102)~~, has a larger extent than in a direction orthogonal thereto.

11. (Currently Amended) A protective apparatus in accordance with claim 1, characterized in that the light receiver ~~(84)~~ has a slit diaphragm ~~(90)~~ whose slit is arranged parallel to a direction of divergence of the received light beam ~~(108)~~ which corresponds to the direction in which the divergent transmitted light beam ~~(98)~~ can be restricted by the restriction device ~~(102)~~.

12. (Currently Amended) A protective apparatus in accordance with claim 1, characterized in that the light transmitted ~~(84)~~ is made such that a transmitted light beam ~~(98)~~ can be emitted by it which diverges differently in two directions orthogonal to one another.

13. (Currently Amended) A protective apparatus in accordance with claim 12, characterized in that the light transmitter ~~(84)~~ and the restriction device ~~(102)~~ are preferably made for the monitoring of a protected zone ~~(110)~~ which is areal in a direction orthogonal to a direction of movement of the component ~~(32)~~.

14. (Currently Amended) A protective apparatus in accordance with claim 1, characterized in that the light receiver ~~(84)~~ has a diaphragm ~~(112)~~ with a butterfly-like diaphragm aperture ~~(114)~~ which includes two wing regions ~~(116)~~ which are arranged transversely to the direction (B) in which the divergent transmitted light beam ~~(98)~~ can be restricted by the restriction device ~~(102)~~.

15. (Currently Amended) A protective apparatus in accordance with claim 5, characterized in that the restriction device ~~(102)~~ includes at least two reflecting or retro-reflective elements ~~(104)~~ which represent an encoding.

16. (Cancelled)

17. (Currently Amended) A protective apparatus in accordance with claim 1, characterized in that the light receiver ~~(44; 64; 84)~~ has a linear arrangement of photo-detection elements ~~(100)~~.

18. (Currently Amended) A protective apparatus in accordance with claim 1, characterized by an evaluation circuit ~~(57; 96)~~ for the reception of received signals of the light receiver ~~(44; 64; 84)~~ and for the emitting of corresponding monitoring signals.

19. (Currently Amended) An apparatus, comprising:

a component which can be moved on a pre-determined track ~~(B)~~ by a drive device; and

a protective apparatus being secured to the component and for monitoring a protected zone to be moved with the component, the protective apparatus comprising:

a light transmitter ~~(42; 64; 84)~~ for the radiation of a divergent transmitted light beam ~~(50, 50'; 76; 98~~) into a spatial zone containing the protected zone ~~(62; 82; 110~~);

a light receiver ~~(44; 64; 84)~~ for the reception of at least some of the light of the transmitted light beam ~~(50, 50'; 76; 98)~~ of the light transmitter ~~(42; 64; 84)~~ radiated into the spatial zone and for the emitting of corresponding reception signals; and

a restriction device ~~(52; 68; 102)~~ which is arranged in the direction of a transmitted light path after a section of the transmitted light path which contains the protected zone ~~(62; 82; 110)~~ and by means of which the transmitted light beam ~~(50, 50'; 76, 8)~~ can be restricted to a less divergent received light beam ~~(58; 80; 108)~~ determining the width of the protected zone ~~(62; 82; 110)~~ in at least one direction, wherein the protected zone ~~(62; 82; 110)~~ includes at least a portion of the track ~~(B)~~.

20. (Currently Amended) An apparatus in accordance with claim 19, characterized in that the light transmitter ~~(42; 64; 84)~~ and the restriction device ~~(52; 68; 102)~~ are held at the component ~~(32)~~ at two holding arms ~~(38, 40)~~ spaced apart spatially transversely to the track ~~(B)~~ of the component ~~(32)~~.

21. (Previously Presented) An apparatus in accordance with claim 19, wherein the apparatus includes a shaping apparatus, in particular a bending press.

22. (Previously Presented) An apparatus in accordance with claim 19, wherein the component includes a shaping tool, in particular a bending tool.

23. (Currently Amended) A method for the monitoring of a protected zone ~~(62; 82; 110)~~ which has to be moved along with a component ~~(32)~~ moved along a track (B), in which

a divergent transmitted light beam ~~(50, 50'; 76; 98)~~ is transmitted and moved along with the component ~~(32)~~;

the divergent transmitted light beam ~~(50, 50'; 76; 98)~~ is restricted, after covering a light path including the protected zone ~~(62; 82; 110)~~, to a less divergent received light beam ~~(58; 80; 108)~~ moved along with the component ~~(32)~~ and defining the width of the protected zone ~~(62; 82; 110)~~ in at least one direction; and

the received light beam ~~(58; 80; 108)~~ is received and monitored

24. (Currently Amended) A method in accordance with claim 23, characterized

in that a reflecting element ~~(68)~~ is used for the restriction of the transmitted light beam ~~(50, 50'; 76; 98)~~.

25. (Currently Amended) A method in accordance with claim 23, characterized in that a retro-reflective element ~~(104)~~ is used for the restriction of the transmitted light beam ~~(50, 50'; 76: 98)~~.